US010959494B2

(12) **United States Patent**
Spicher et al.

(10) **Patent No.: US 10,959,494 B2**
(45) **Date of Patent: Mar. 30, 2021**

(54) **PORTABLE RATCHET FOOTWEAR TIGHTENING SYSTEM**

(71) Applicant: **D&J INNOVATIONS, LLC**, Dauphin, PA (US)

(72) Inventors: **Denny Spicher**, Dauphin, PA (US); **Joshua Spicher**, Dauphin, PA (US); **Jeremy Spicher**, Mechanicsburg, PA (US)

(73) Assignee: **D&J INNOVATIONS, LLC**, Dauphin, PA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **16/542,386**

(22) Filed: **Aug. 16, 2019**

(65) **Prior Publication Data**

US 2020/0054100 A1 Feb. 20, 2020

Related U.S. Application Data

(60) Provisional application No. 62/764,931, filed on Aug. 16, 2018.

(51) **Int. Cl.**
A43C 11/00 (2006.01)
A44B 11/06 (2006.01)

(52) **U.S. Cl.**
CPC ***A44B 11/065*** (2013.01)

(58) **Field of Classification Search**
CPC A44B 11/065
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,173,182	A *	3/1965	Teufel	A43C 11/1406 24/68 SK
3,224,118	A *	12/1965	Tenfel	A43C 11/1406 36/117.8
3,292,222	A *	12/1966	Steinberg	A43C 11/1406 24/68 SK
3,363,288	A *	1/1968	Lange	A43C 11/148 24/68 SK
3,599,296	A *	8/1971	Baso	A43C 11/1413 24/70 SK
3,662,435	A *	5/1972	Allsop	A43C 11/1413 24/70 SK
4,112,557	A *	9/1978	Salomon	A43C 11/1413 24/69 SK

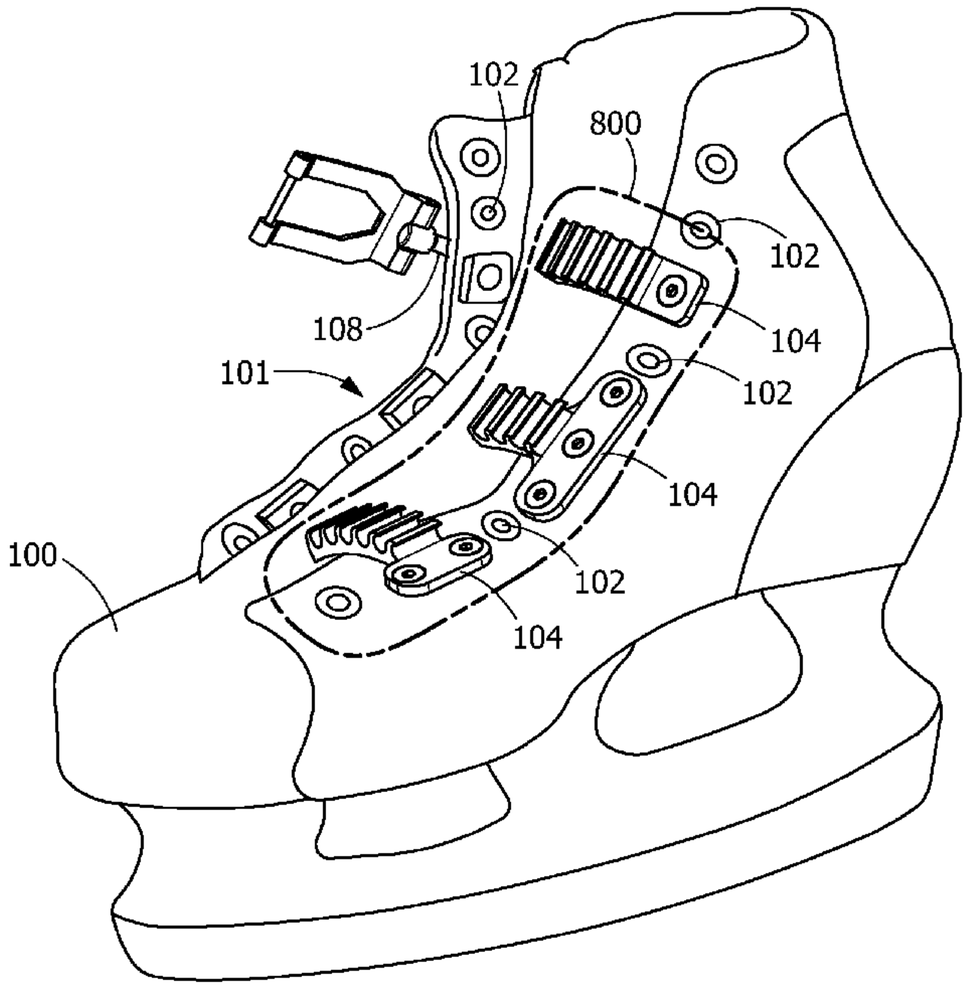
(Continued)

Primary Examiner — Jason W San
(74) *Attorney, Agent, or Firm* — McNees Wallace & Nurick LLC

(57) **ABSTRACT**

Described is a portable footwear tightener lace replacement (mechanism) for use with an ice skate, sports shoe, work boot, sneaker or other footwear that has eyelets or lace hooks and normally uses laces for tightening. The portable footwear tightener includes an inside strap having a tooth or ribbed top side, an inside strap footwear attachment structure, an outside strap having a ratchet or clasp/buckle mechanism, an outside strap footwear attachment structure. Each of the inside strap and the outside strap is attached to the footwear through the eyelets, hooks or hoops by the inside strap footwear attachment structure and the outside footwear attachment structure, respectively, and the ribbed or toothed portion of the inside strap is connectable to ratchet or clasp/buckle mechanism of the outside strap into a snug arrangement.

12 Claims, 13 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

4,310,951	A *	1/1982	Riedel	A43C 11/1413 24/68 SK
5,251,388	A *	10/1993	Pozzobon	A43C 11/1413 24/68 SK
5,575,045	A *	11/1996	Chu	A43C 11/146 24/68 SK
5,647,104	A *	7/1997	James	A43C 11/008 24/68 SK
5,701,639	A *	12/1997	Chen	A43C 11/1406 24/629
6,250,651	B1 *	6/2001	Reuss	A43C 11/1406 24/70 SK
6,293,566	B1 *	9/2001	Carpenter	A63C 10/04 280/14.21
6,412,147	B1 *	7/2002	Chen	A43C 11/1413 24/68 SK
6,554,297	B2 *	4/2003	Phillips	A43C 11/1413 24/68 SK
6,622,400	B2 *	9/2003	Bollard	A43C 11/1406 24/68 SK
6,640,396	B1 *	11/2003	Lin	A43C 11/148 24/191
6,729,047	B2 *	5/2004	Hirayama	A43B 3/0031 24/68 SK
7,866,065	B2 *	1/2011	Munns	A43B 5/145 24/68 SK
7,877,845	B2 *	2/2011	Signori	F16B 2/08 24/68 SK
8,763,209	B2 *	7/2014	Kavarsky	A43C 11/1413 24/68 SK
8,763,210	B2 *	7/2014	Vincent	A43B 5/04 24/68 SK
9,814,281	B2	11/2017	Fisher et al.	
2003/0041418	A1 *	3/2003	Berlese	A43C 11/1433 24/68 SK
2004/0148741	A1 *	8/2004	Hsiao	A43C 11/148 24/68 SK
2006/0156517	A1 *	7/2006	Hammerslag	A43C 1/04 24/68 SK
2006/0260101	A1 *	11/2006	Holzer	A43B 5/0452 24/68 SK
2008/0209702	A1 *	9/2008	Van Dine	A44B 11/12 24/68 SK
2008/0263901	A1 *	10/2008	Chaigne	A43C 11/142 36/117.1
2011/0000057	A1 *	1/2011	Abdul	A43C 11/146 24/68 SK
2012/0297591	A1 *	11/2012	Bozzetto	A43C 11/146 24/68 SK
2013/0047388	A1 *	2/2013	Kavarsky	A43C 11/142 24/68 SK
2013/0091674	A1 *	4/2013	Chen	A43C 11/146 24/68 SK
2015/0059135	A1 *	3/2015	Benetti	A43C 11/144 24/68 SK
2015/0289593	A1 *	10/2015	Quagliotto	A43C 11/12 36/115
2016/0175688	A1 *	6/2016	Gelin	A63C 5/03 280/14.22
2017/0202314	A1 *	7/2017	Song	A43C 11/1493
2018/0360167	A1	12/2018	Zoulamian	

* cited by examiner

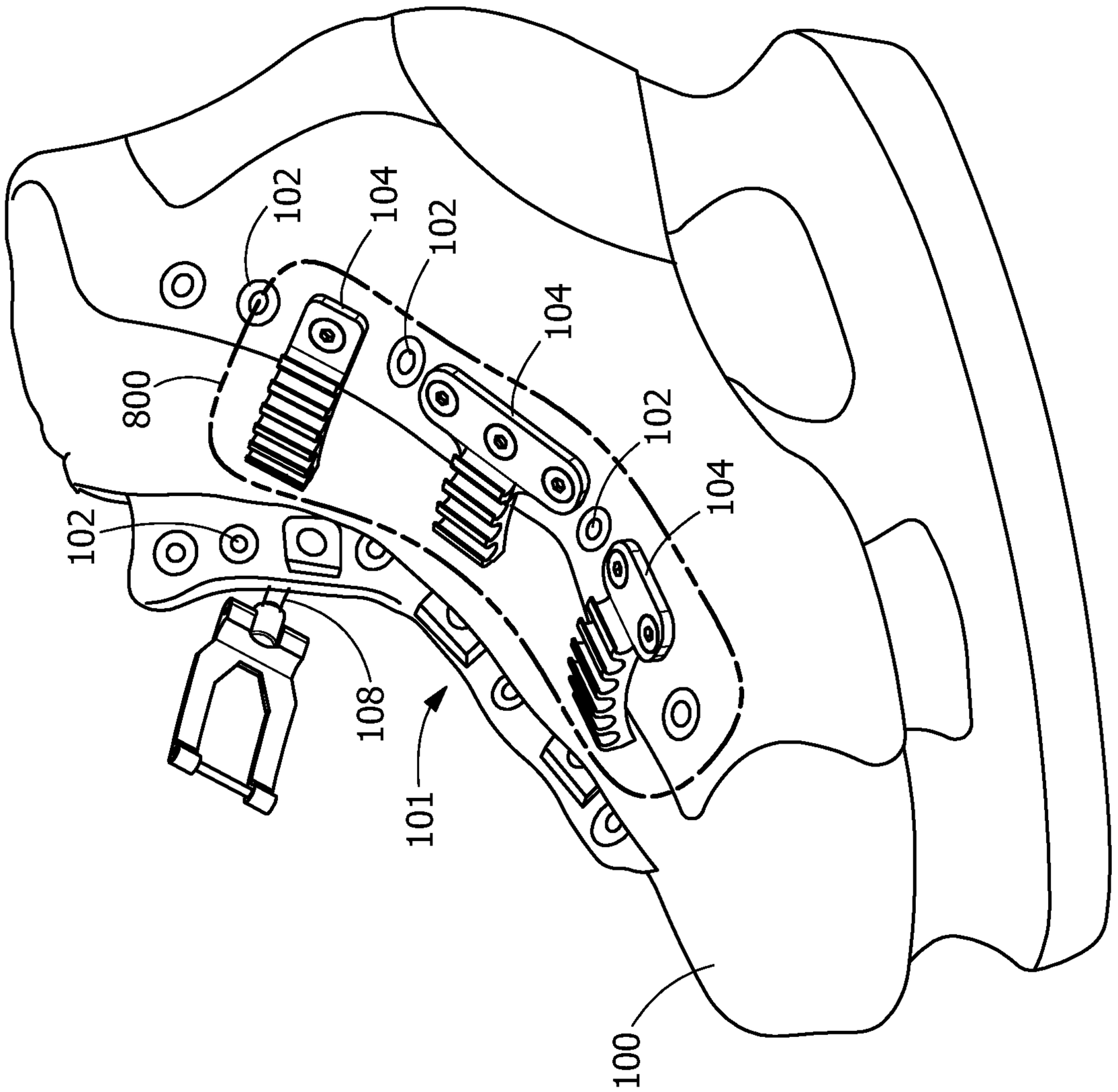


FIG. 1

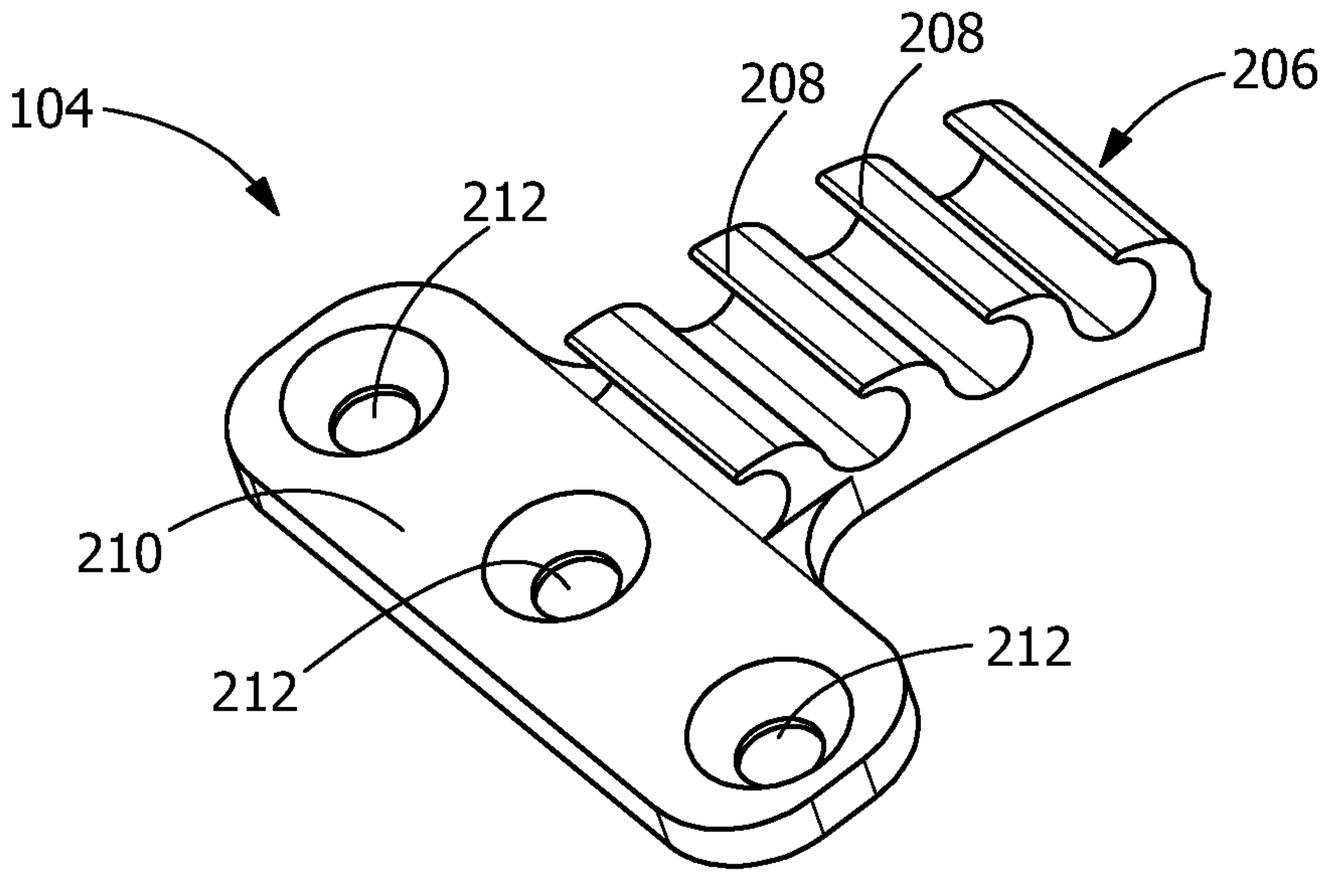


FIG. 2

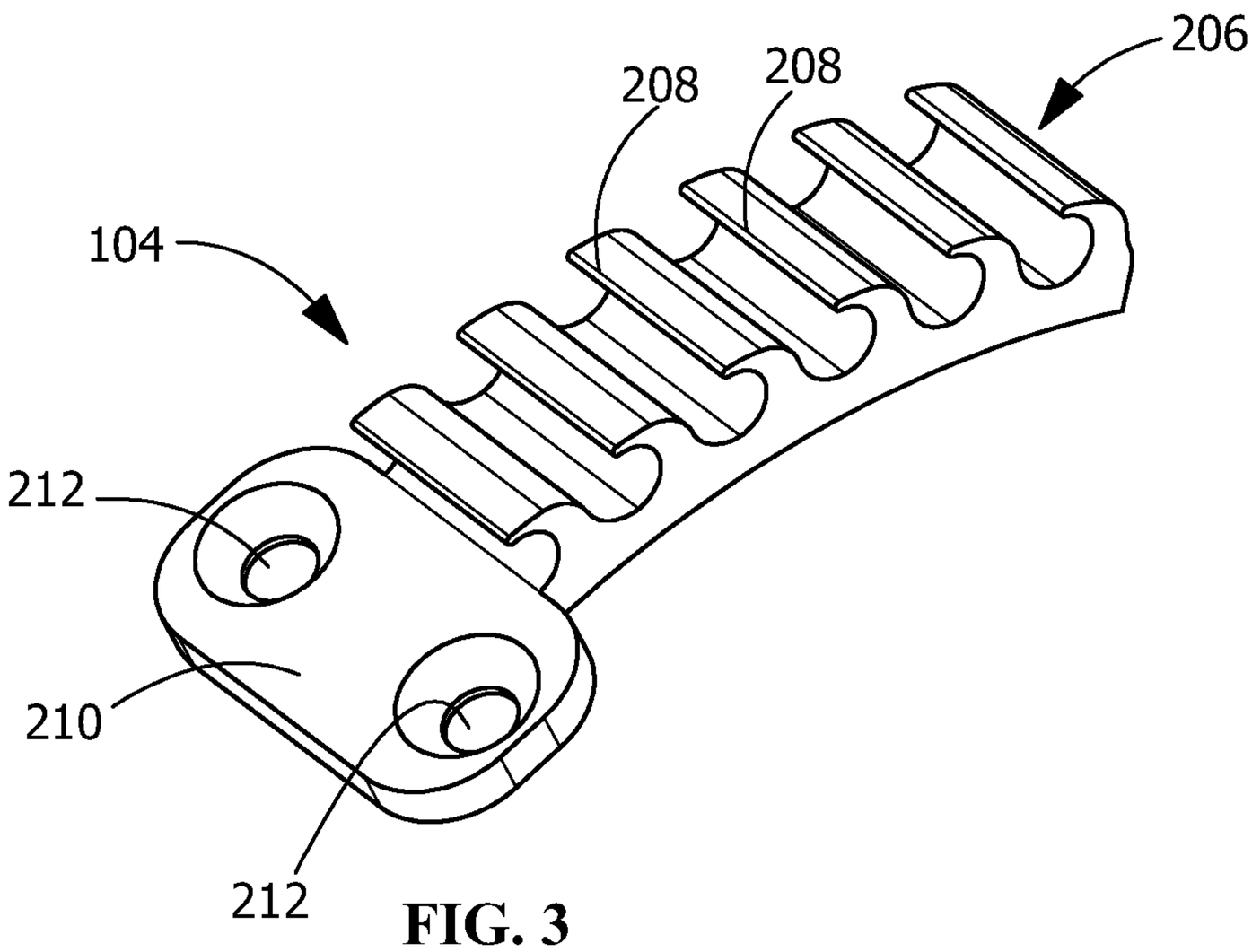


FIG. 3

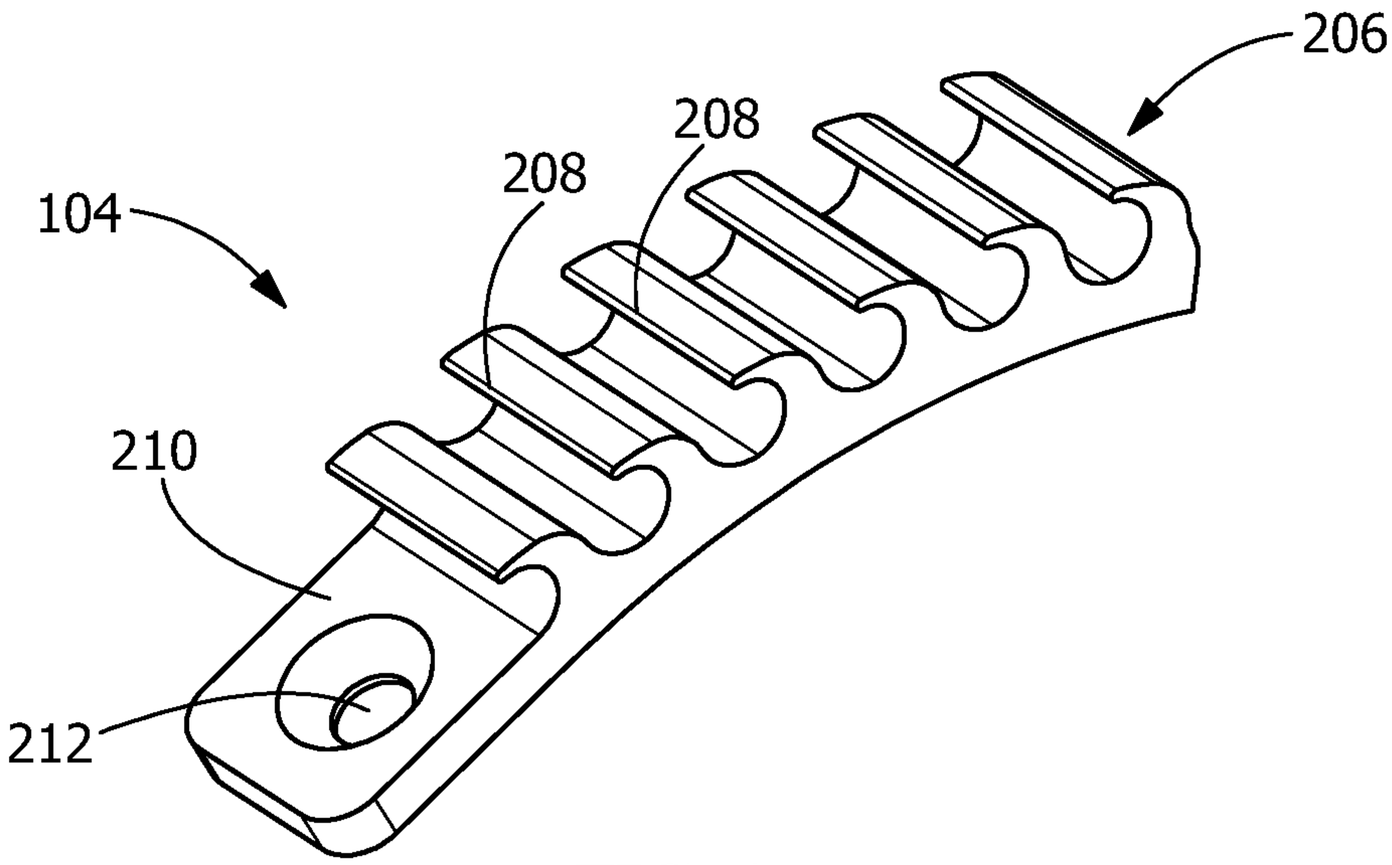


FIG. 4

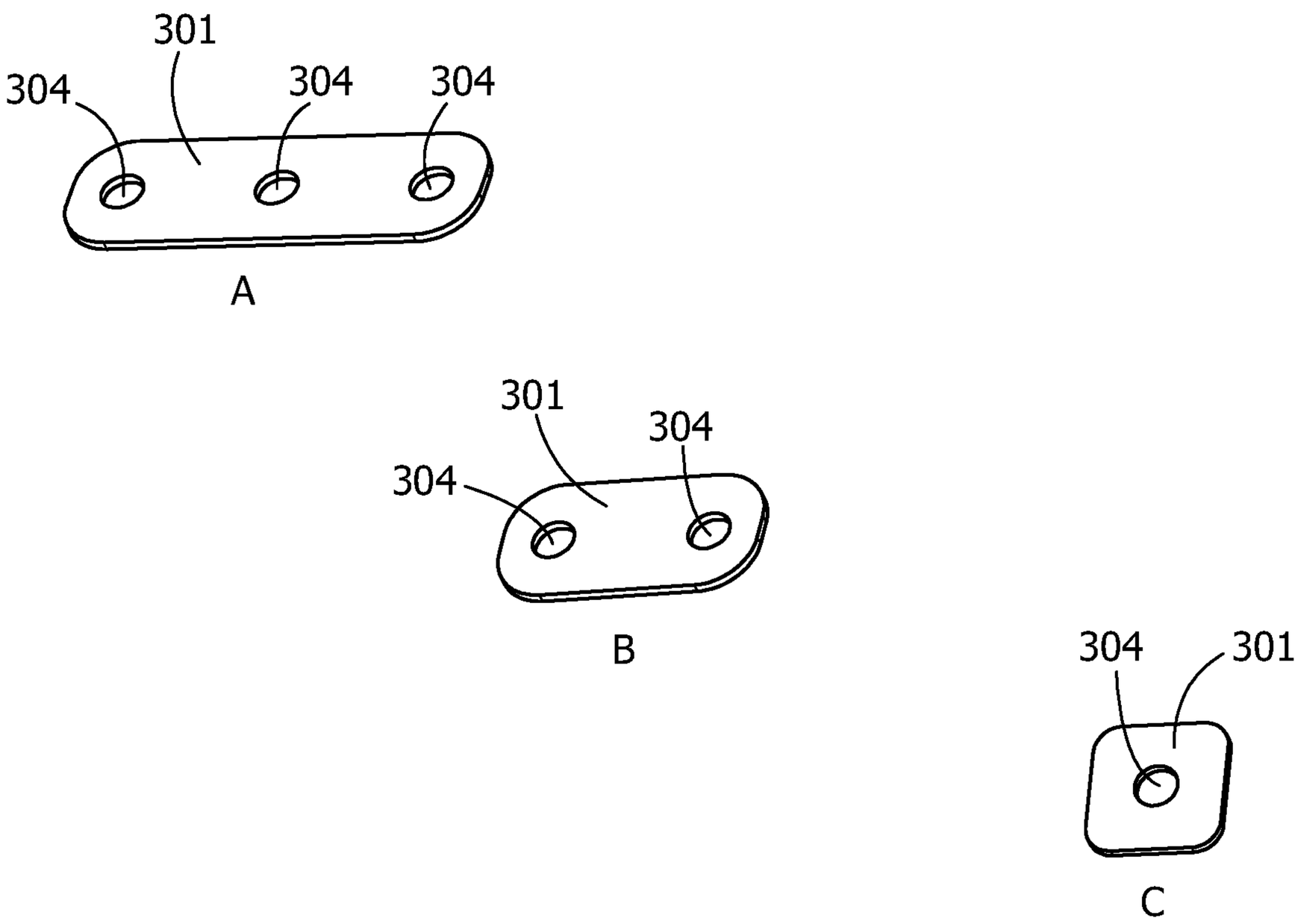


FIG. 5

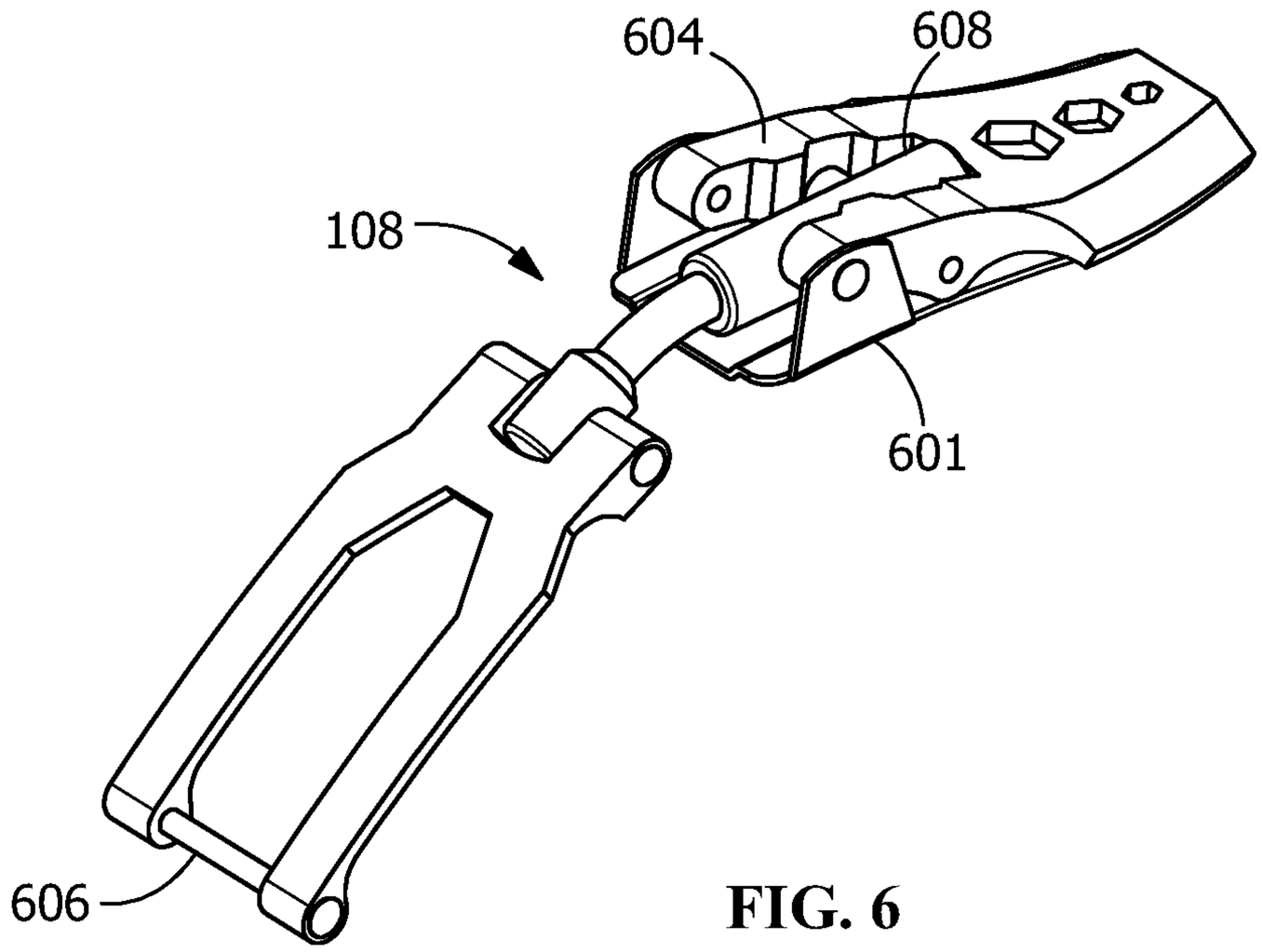

604
608
108
601
606

FIG. 6

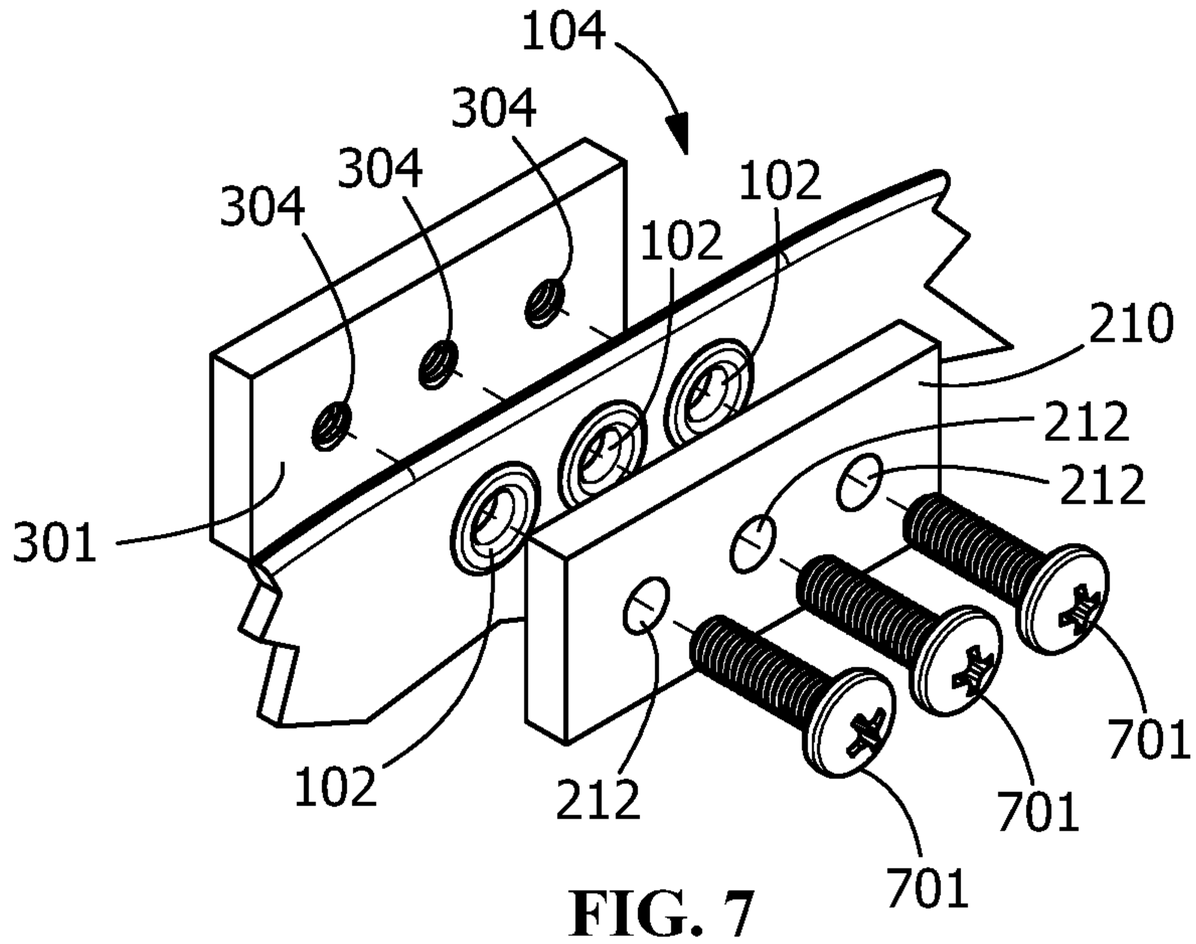

104
304
304
304
102
102
210
212
212
301
102
212
701
701
701

FIG. 7

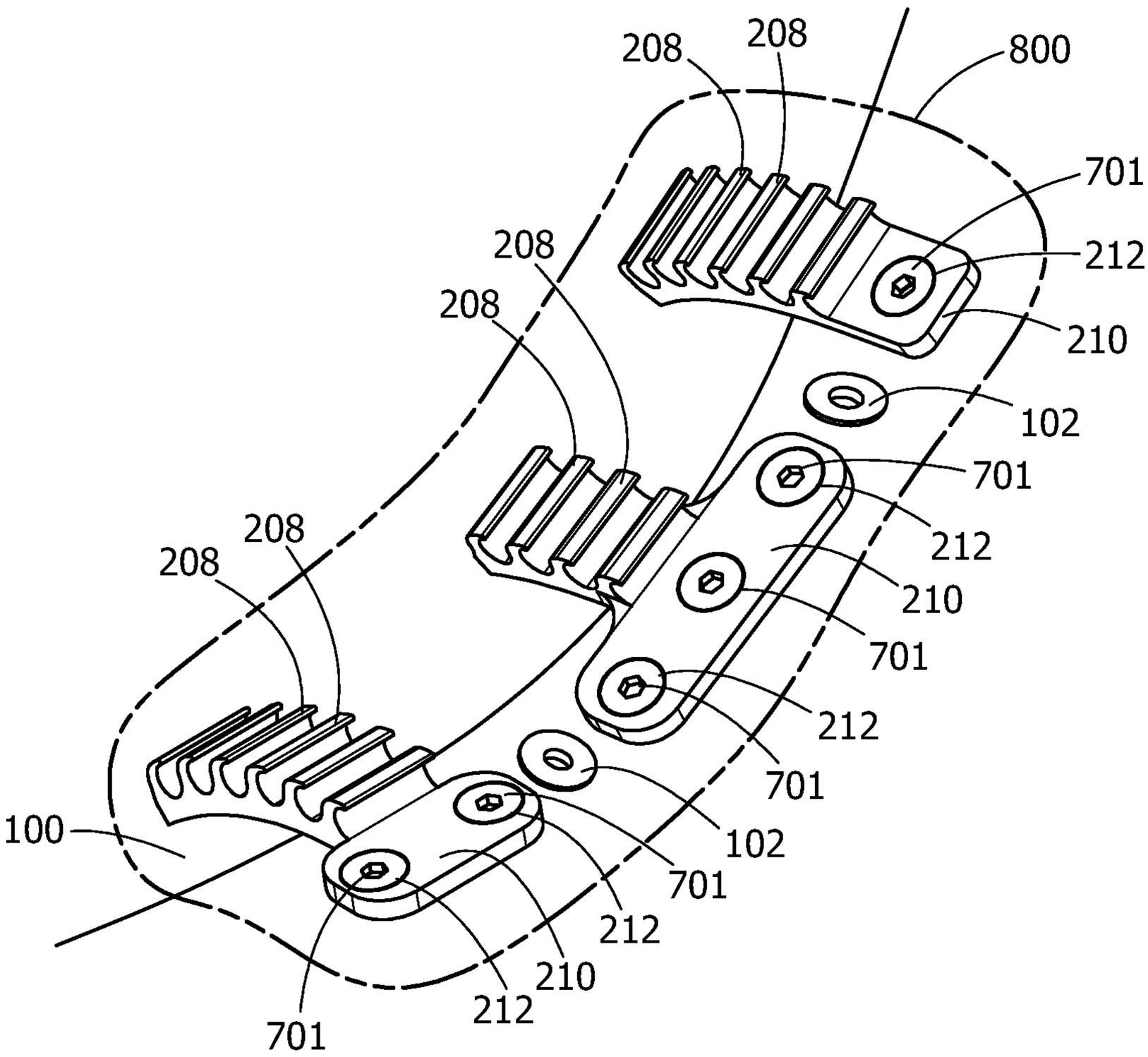

208
208
800
701
212
208
208
210
102
701
208
212
208
210
701
212
701
102
100
701
212
210
212
701

FIG. 8

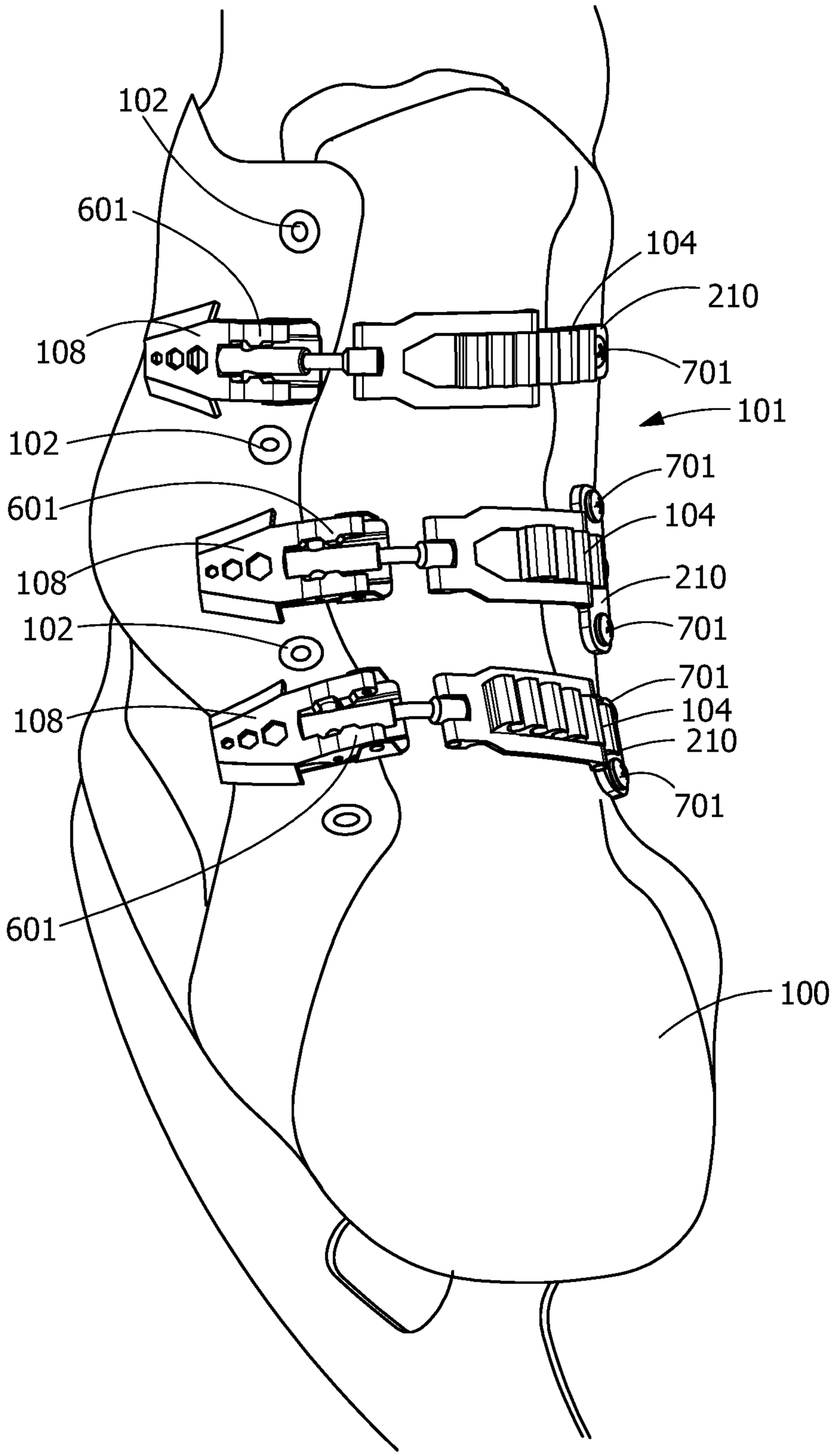

102
601
108
104
210
701
101
102
701
601
104
108
210
102
701
701
108
104
210
701
601
100

FIG. 9

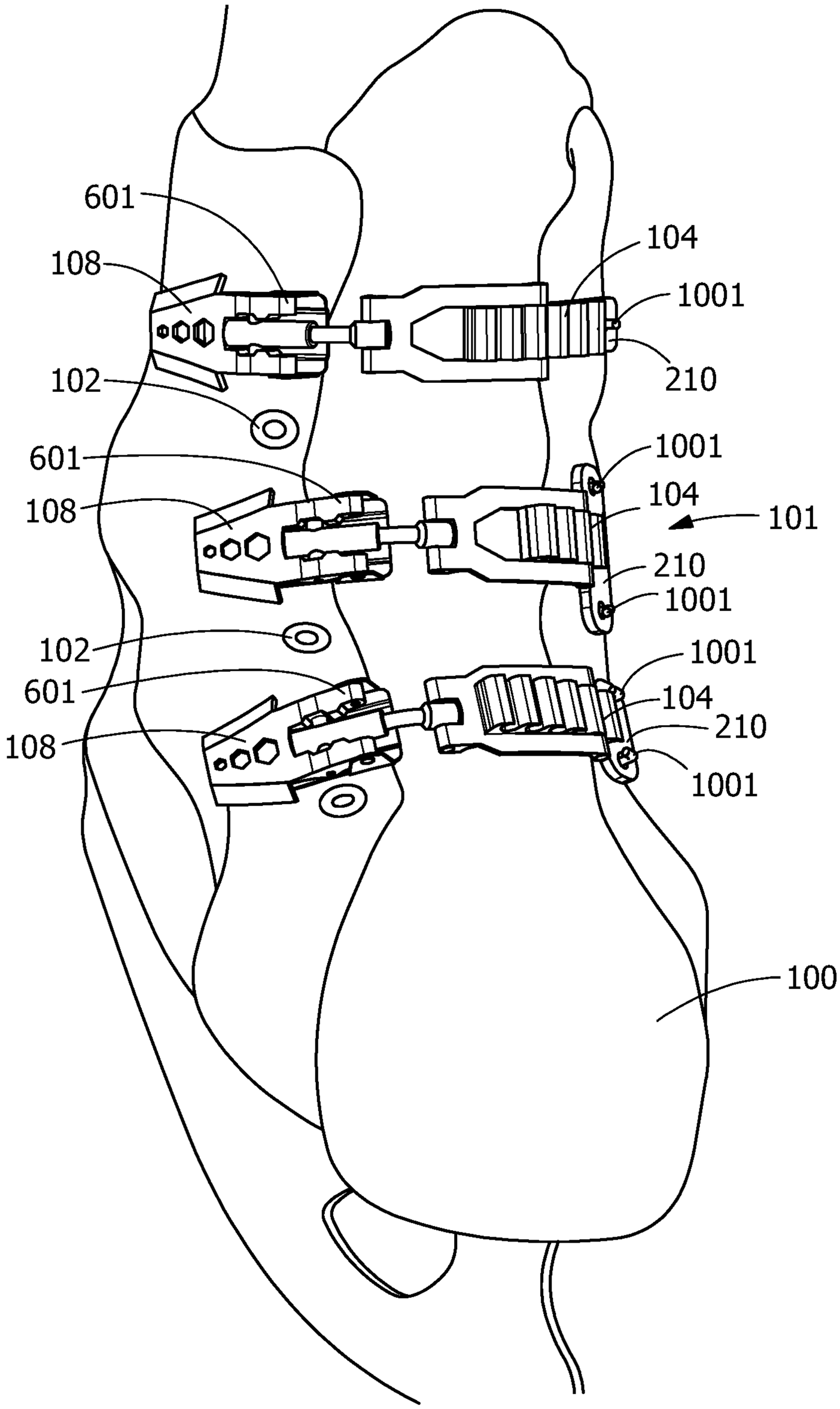

601
108
104
1001
102
210
601
1001
108
104
101
210
1001
102
1001
601
104
108
210
1001
100

FIG. 10

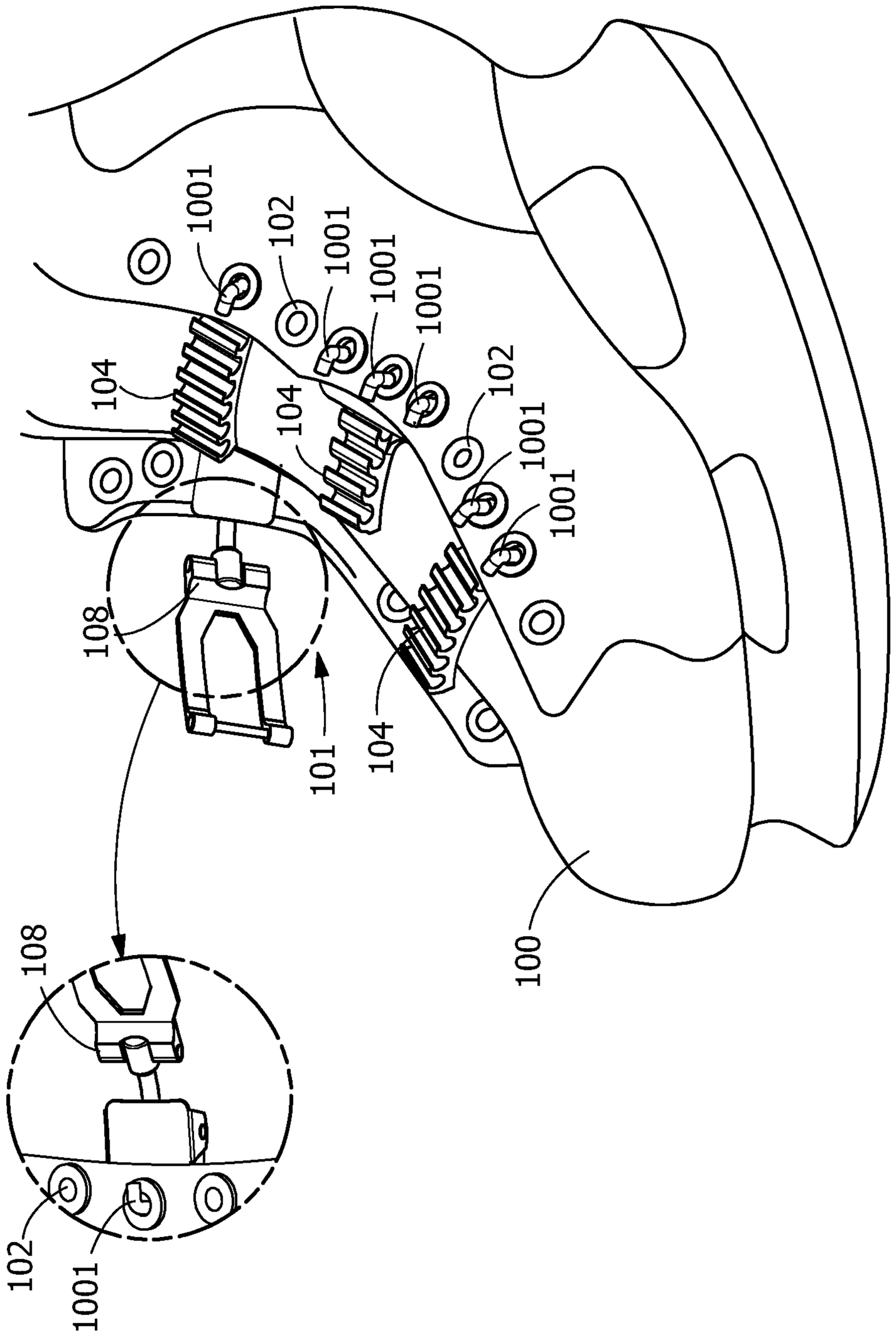


FIG. 11

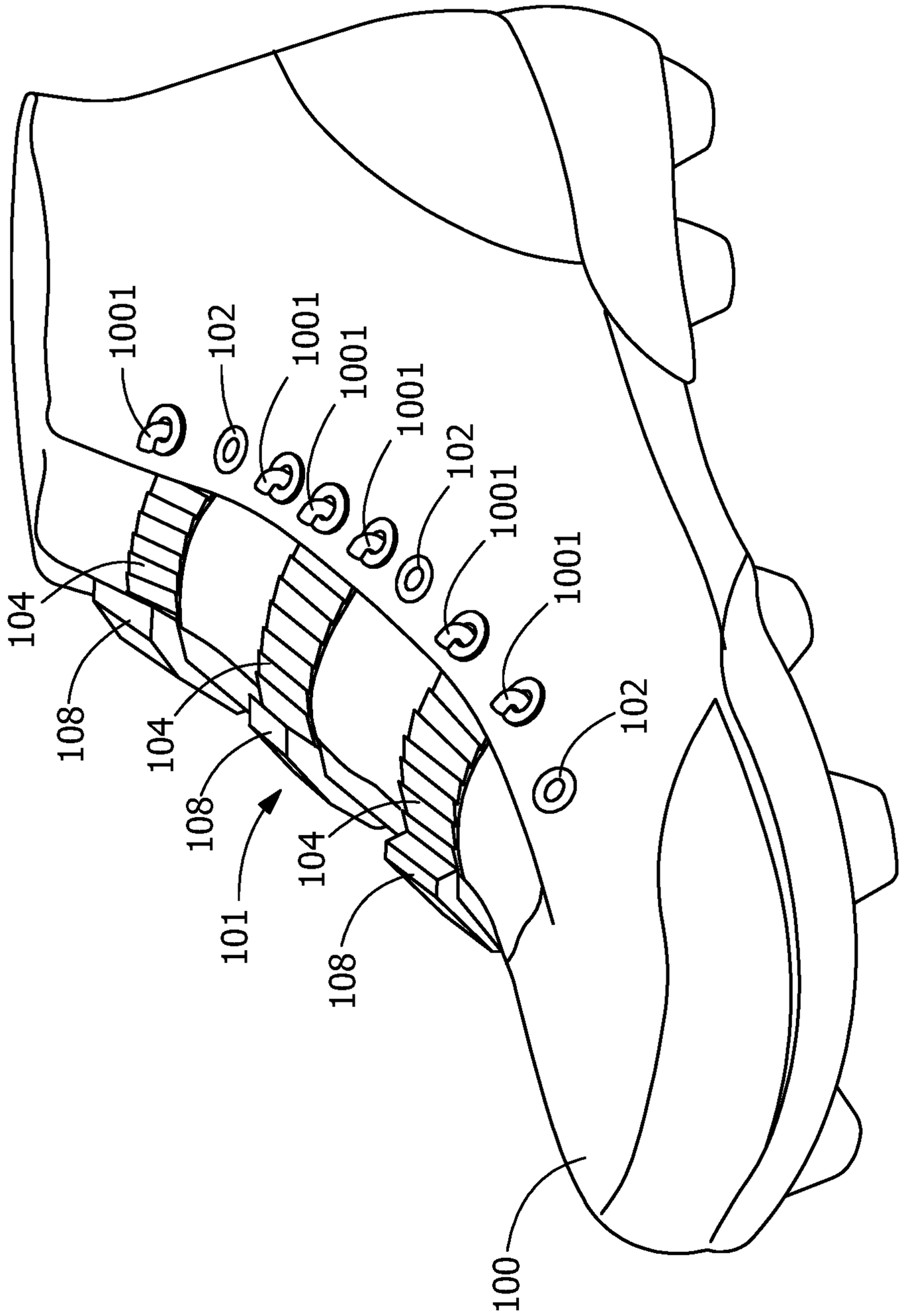

1001
102
1001
1001
1001
102
1001
1001
102
104
108
104
108
101
104
108
100

FIG. 12

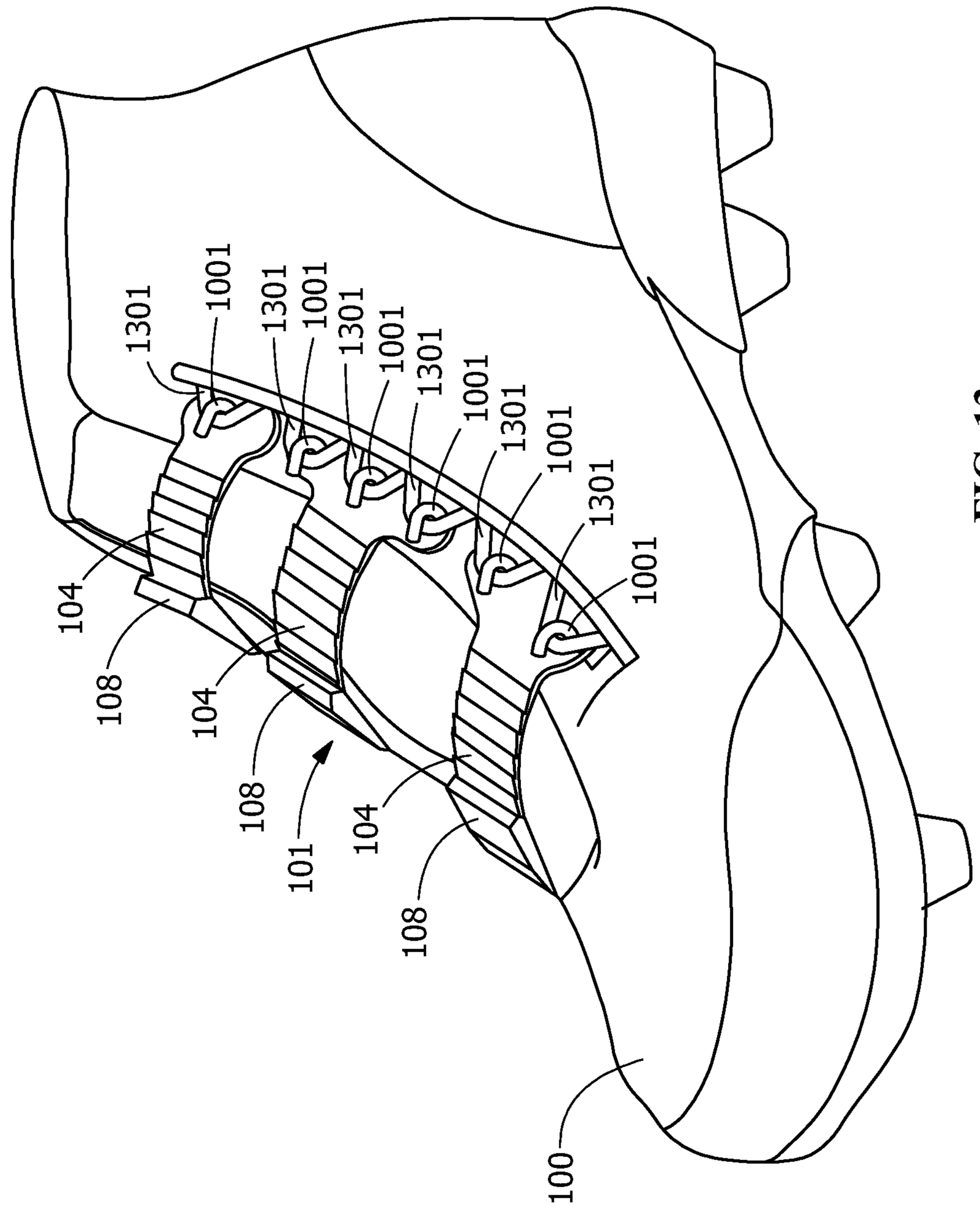

1301
1001
1301
1001
1301
1001
1301
1001
1301
1001
1301
1001
1301
1001
104
108
104
108
101
104
108
100

FIG. 13

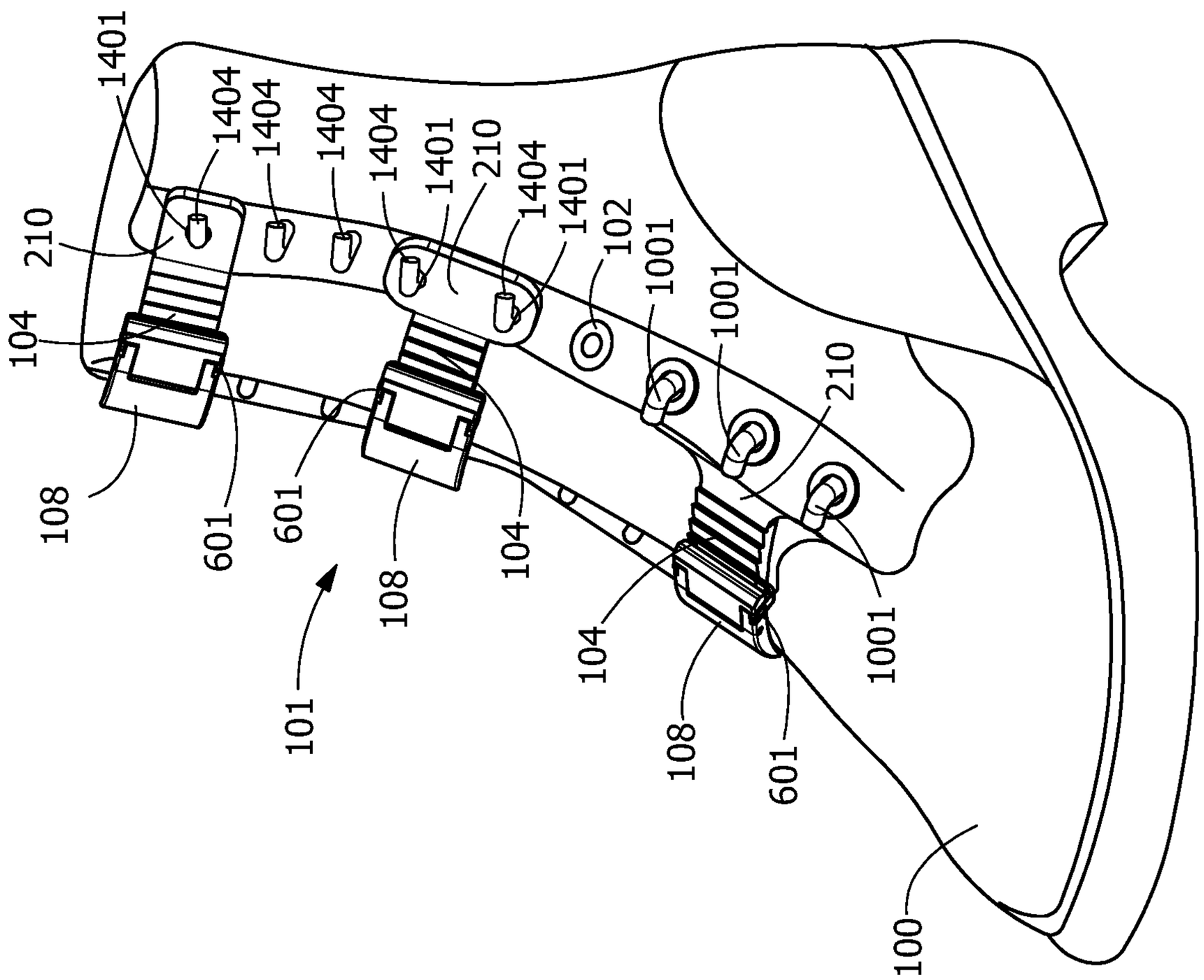

1404
1404
1404
1404
1401
210
1404
1401
102
1001
1001
210
1001
210
104
108
601
601
108
104
104
108
601
101
100

FIG. 14

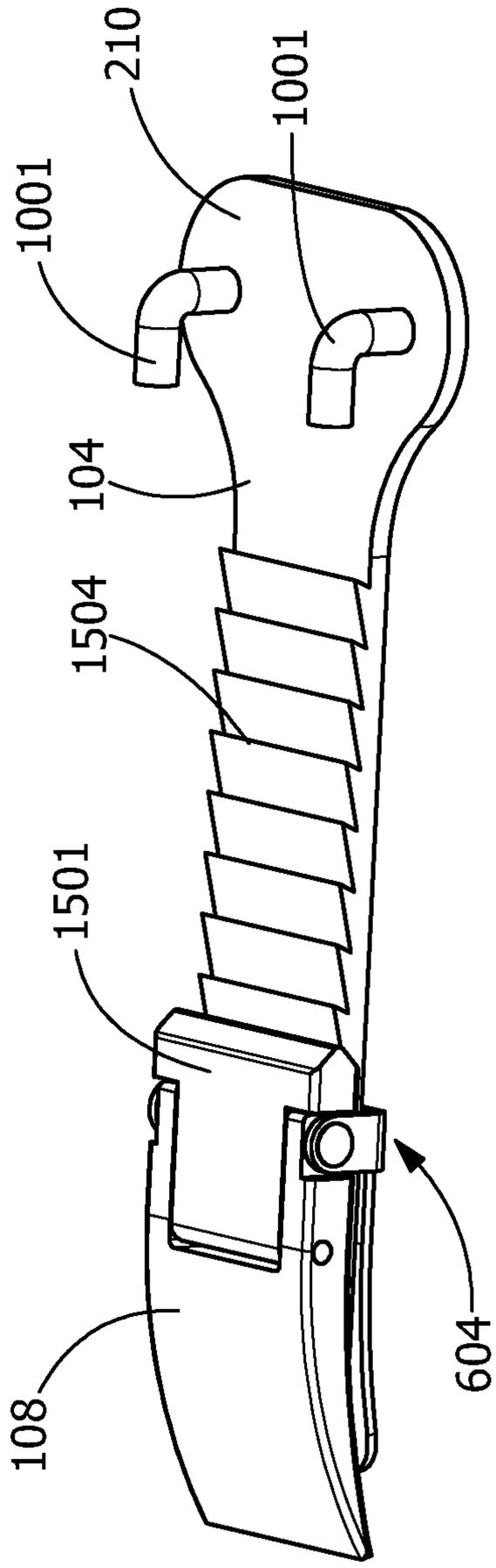

210
1001
1001
104
1504
1501
108
604

FIG. 15

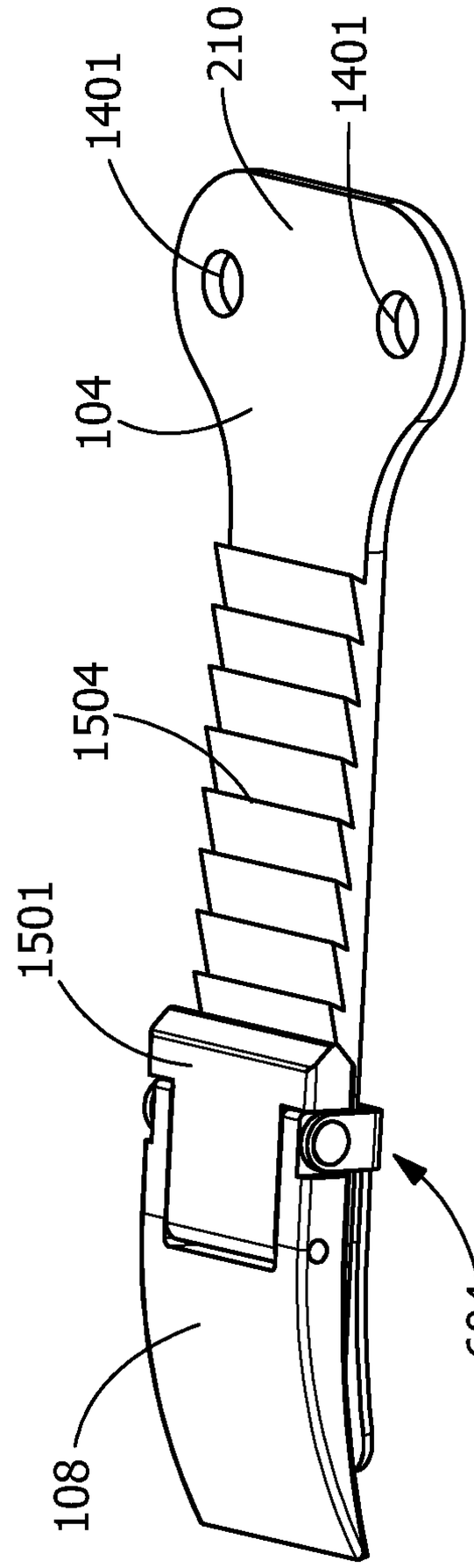

1401
210
1401
104
1504
1501
108
604

FIG. 16

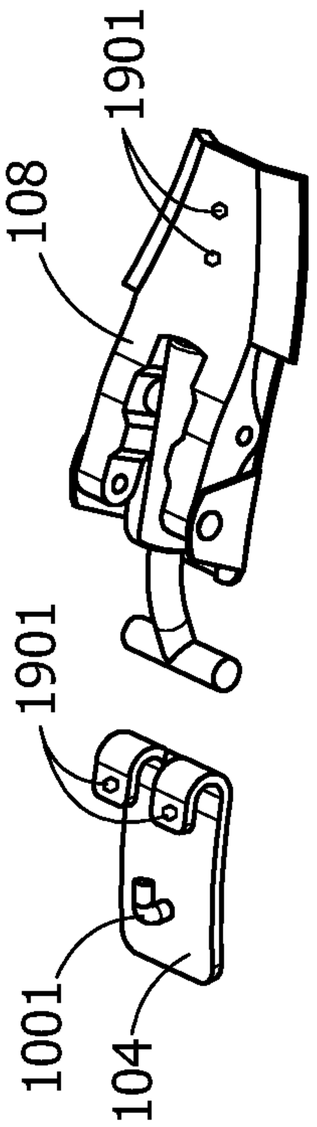


FIG. 19

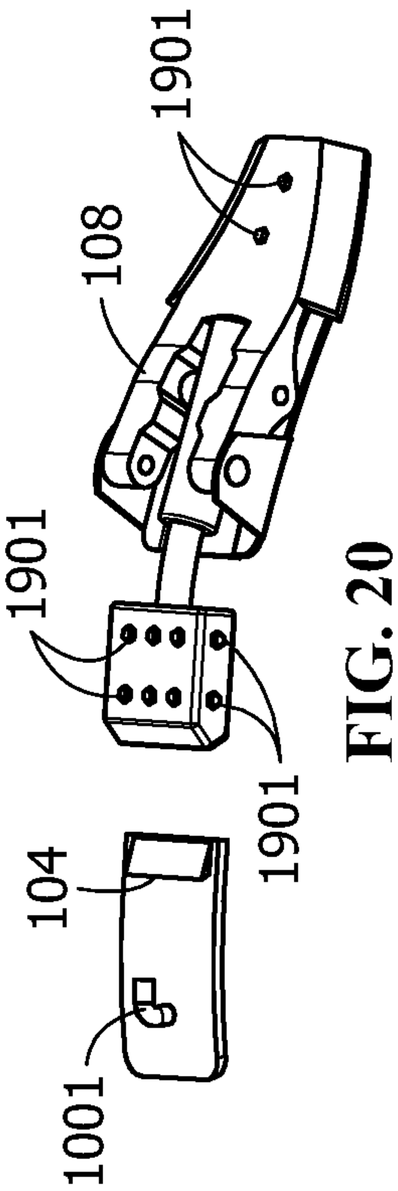


FIG. 20

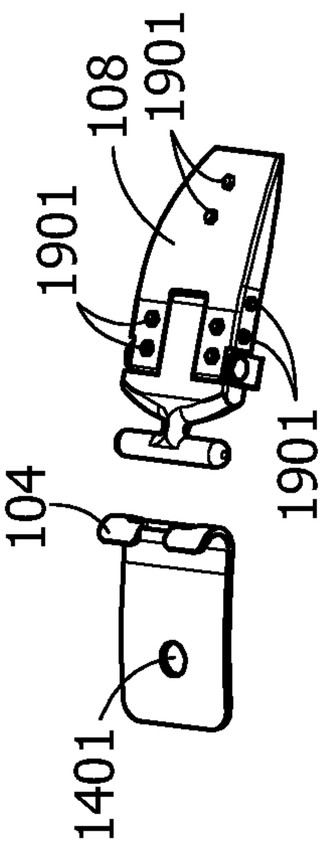


FIG. 21

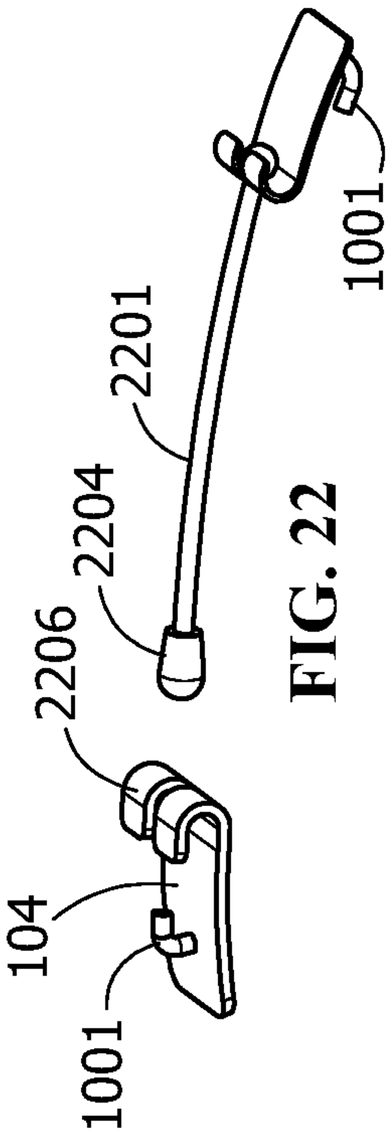


FIG. 22

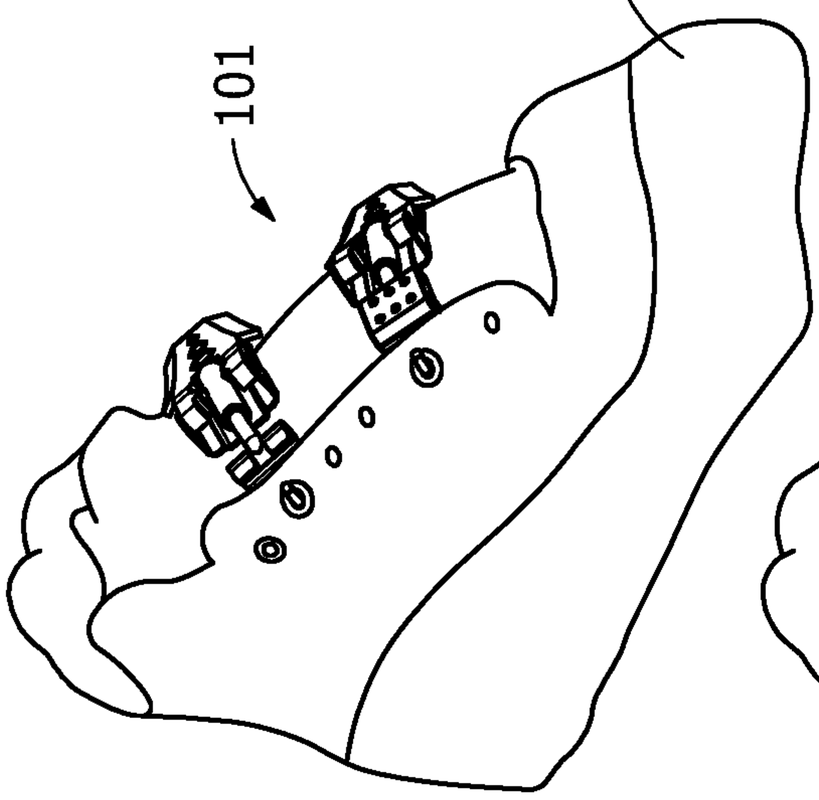


FIG. 17

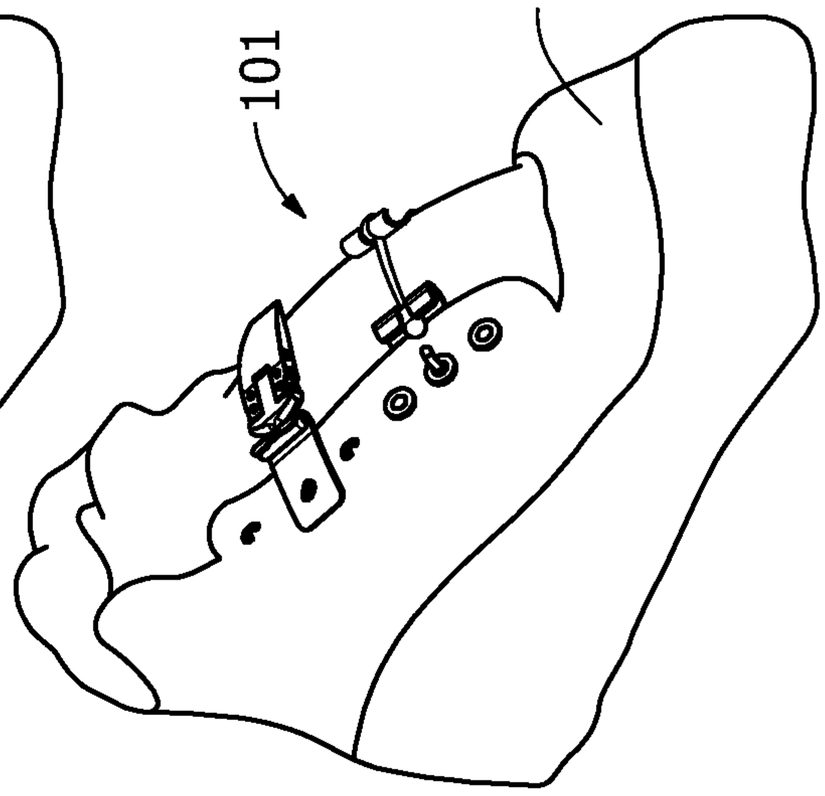


FIG. 18

PORTABLE RATCHET FOOTWEAR TIGHTENING SYSTEM

RELATED APPLICATIONS

This application is based on, claims priority to, and incorporates herein by reference in its entirety, U.S. Provisional Patent Application Ser. No. 62/764,931, filed on Aug. 16, 2018, and entitled "Shoe clasp".

FIELD OF THE INVENTION

The present invention is directed to fasteners and tighteners, and more specifically relates to footwear fasteners and accessories.

BACKGROUND OF THE INVENTION

Footwear is a basic necessity for most athletes and professionals who work in harsh environments. The market for athletic footwear and work boots is vast with many choices for the general user. In addition to style of footwear for specific sports or work environments, there are individual styles and attributes available based on personal preference.

The most common form of providing support, stability and secureness to the foot, across the board, are laces. Laces have their place, but some athletes and workers find them to be cumbersome and unreliable, they take time to fasten and they come untied. When time could mean a missed play, the last thing athletes want to do is tie their shoes. When the job needs to be completed, workers are not thinking about the safety of their laces. Younger athletes, who don't have the strength or dexterity to retie laces while on the field of play, require the help of an adult. Footwear utilizing laces can cause a delay in play and potential for missed opportunities.

Whether it is young athletes who struggle to lace up their footwear themselves, professional or recreational athletes who are looking to shave seconds off their prep time or equipment downtime or workers looking for reliable yet stable boot fasteners to alleviate another safety issue, laces suffer from significant drawbacks.

Accordingly, what is needed is an improved way to comfortably and quickly tighten shoes, in essentially any environment.

SUMMARY OF THE INVENTION

In accordance with an aspect of the invention, there is provided a portable latch style fastener for use with a skate, shoe or boot having eyelets or hooks typically used for laces. The portable latch style fastener includes an inside toothed or ribbed strap with one of the following: eyelet screw or screws with backplate, hook or loop attachments, of a quantity of one, two, three or more eyelet or hook connection points; an outside strap with matching eyelet or hook attachments and a clasp/buckle for use with the inside toothed strap or ratchet latch receiver for use with the ribbed inside strap.

According to an embodiment of the invention, there is provided a set of three portable latching mechanisms with a combination of eyelet or hook attachment quantities described above. Thus, allowing up to three attachment locations along the footwear which meet the desired support and comfort level of the user. The latch is adjustable by nature, whereas the inside strap is inserted through the clasp on the outside strap until even with the footwear, then the ratchet is used to tighten the shoe as desired. The latch may be tightened and untightened by operating the ratchet clasp.

According to an embodiment of the invention, there is provided a portable footwear tightener for footwear having eyelets or eyelet hooks. The portable footwear tightener includes an inside strap having a tooth or ribbed top side, an inside strap footwear attachment structure, an outside strap having a ratchet or clasp/buckle mechanism, an outside strap footwear attachment structure. Each of the inside strap and the outside strap is attached to the footwear through the eyelets, hooks or hoops by the inside strap footwear attachment structure and the outside footwear attachment structure, respectively, and the ribbed or toothed portion of the inside strap is connectable to ratchet or clasp/buckle mechanism of the outside strap into a snug arrangement.

According to a further embodiment, the present invention provides an alternate eyelet means of attachment of an eyelet hook, in lieu of the rivet screws, of like number of connection points.

According to a further embodiment, the present invention provides an alternate eyelet means of attachment of a hoop, in lieu of the rivet screws, of like number of connection points.

According to a further embodiment, the present invention provides an alternate latching mechanism such that a clasp of similar function as that of a wrist watch combined with previously mentioned means of shoe attachments. Wherein, the clasp can be decorated for custom designs.

Other features and advantages of the present invention will be apparent from the following more detailed description, taken in conjunction with the accompanying drawings which illustrate, by way of example, the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of footwear including a portable footwear tightener according to an embodiment of the present invention.

FIG. **2** is a perspective view of a triple eyelet fastener inside strap according to an embodiment of the present invention.

FIG. **3** is a perspective view of the double eyelet fastener inside strap according to an embodiment of the present invention.

FIG. **4** is a perspective view of the single eyelet fastener inside strap according to an embodiment of the present invention.

FIG. **5** is a perspective view showing the single, double and triple eyelet backplate for use with fasteners according to an embodiment of the invention.

FIG. **6** is a perspective view of an outside strap according to an embodiment of the present invention.

FIG. **7** is an exploded perspective view of the attachment of a triple eyelet fastener inside strap according to an embodiment of the present invention.

FIG. **8** is an enlarged view of the inside straps of a portable footwear tightener according to an embodiment of the present invention.

FIG. **9** is a perspective view of the footwear including a portable footwear tightener according to FIG. **1** in a closed position.

FIG. **10** is a perspective view of footwear including a portable footwear tightener according to an alternate embodiment of the present invention.

FIG. **11** is a perspective view of the footwear including a portable footwear tightener according to FIG. **10** in an open position.

FIG. **12** is a perspective view of footwear including a portable footwear tightener according to an alternate embodiment of the present invention.

FIG. **13** is a perspective view of footwear including a portable footwear tightener according to an alternate embodiment of the present invention.

FIG. **14** is a perspective view of footwear including a portable footwear tightener according to an alternate embodiment of the present invention.

FIG. **15** is a perspective view of a ratchet with hook mechanism according to an alternate embodiment of the present invention.

FIG. **16** is a perspective view of a ratchet with hook mechanism according to an alternate embodiment of the present invention.

FIG. **17** is a perspective view of footwear including a portable footwear tightener according to an alternate embodiment of the present invention.

FIG. **18** is a perspective view of footwear including a portable footwear tightener according to an alternate embodiment of the present invention.

FIG. **19** is a perspective view of a designer clasp, using each of the pre-defined connections methods, with a custom designer covering for use in fashion according to an alternate embodiment of the present invention.

FIG. **20** is a perspective view of a designer clasp according to an alternate embodiment of the present invention.

FIG. **21** is a perspective view of a designer clasp according to an alternate embodiment of the present invention.

FIG. **22** is a perspective view of a designer clasp according to an alternate embodiment of the present invention.

Wherever possible, the same reference numbers will be used throughout the drawings to represent the same parts.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to FIG. **1**, footwear **100** including a portable footwear tightener **101** installed thereon. The footwear **100** shown in FIG. **1** includes an ice skate, but is not so limited. Suitable embodiments of footwear **100** include, but are not limited to, shoes, sneakers, boots, sandals, athletic shoes, skates, work boots. The portable footwear tightener **101** includes a plurality of inside straps **104** (see, for example, FIGS. **2-4**) and outside straps **108** connected to footwear **100** via eyelets **102**. Eyelets **102** include eyelets that are typically or conventionally found on footwear and may include openings through which laces or similar structures would normally be fed to tighten the footwear. For convenience, a single set of these elements, which function as a portable clasp footwear tightener may, as an individual set, be designated as latching mechanism regardless of the number of eyelets. As indicated in greater detail below, each section of parts combines to form one latch mechanism which fastens to the right and left side of the footwear using the respective number of eyelets held in place by fasteners and back plates.

FIG. **2** shows inside strap **104** for attachment to footwear **100**. Inside strap **104** includes a top side **206** including a plurality of ribs **208**. The number of ribs **208** is not particularly limited and may include any suitable number of ribs **208** that provide desired sizing for the user of the footwear **100**. The inside strap further includes an inside strap footwear attachment structure **210** having fastener openings **212**.

In one embodiment, the fastener openings **212** are non threaded openings sized to permit the passage of a fastener, such as a screw. The arrangement shown in FIG. **2** includes an inside strap having three fastener openings **212**. FIG. **3** shows an arrangement of inside strap **104** including the same structure as shown and described with respect to FIG. **2**. However, FIG. **3** includes two fastener openings **212**. FIG. **4** shows an arrangement of inside strap **104** including the same structure as shown and described with respect to FIG. **2**. However, FIG. **4** includes one fastener opening **212**.

FIG. **5** includes back plates **301** to receive fasteners, such as screws in threaded receivers **304**. Threaded receivers **304** are configured to receive a fastener passed through the fastener opening **212** of inside attachment structure **210** and an eyelet **102** of footwear **100**. Three embodiments are shown in FIG. **5**, including A, which includes three threaded receivers **304**, corresponding to the inside strap **104** of FIG. **2**. B of FIG. **5** includes two threaded receivers **304**, which correspond to the inside strap **104** of FIG. **3**. C of FIG. **5** includes one threaded receiver **304**, which corresponds to the inside strap **104** of FIG. **4**.

FIG. **6** shows an outside strap **108** according to an embodiment of the present invention. The outside strap **108** includes an outside strap footwear attachment structure **601** having a fastener opening **212** (not visible in FIG. **6**) similar to the fastener opening **212** of the inside strap footwear attachment structure **210**. In addition, outside strap **108** includes a clasp/buckle mechanism **604** for engaging the ribs **208** of the inside strap **104**. Clasp/buckle mechanism **604** includes an engagement bar **606** that releasably engages ribs **208** to hook over the desired rib **208** on the inside strap **104**, the clasp/buckle mechanism **604** would then be closed and adjusted using the adjustment screw **608**. Adjustment screw **608** includes a threaded arrangement that rotates and adjusts the length of the clasp/buckle mechanism **604** in order to adjust the size to a desired size. Although not shown in FIG. **6**, the outside strap **108** of FIG. **6** would include a back plate **301**, as shown as C of FIG. **5** having one threaded receiver **304**. As with the inside strap **104**, a fastener is passed through the fastener opening **212** of the outside strap footwear attachment structure **601**, through an eyelet **102** of the footwear and into the threaded receiver **304** of the back plate **301**. The ratchet or clasp/buckle mechanism **604** of outside strap **108** is configured to pull the mechanism tight to a users' preference. In addition, ratchet or clasp/buckle mechanism **604** of outside strap **108** is configured to release the ribbed or toothed inside strap **104**, for example, by pressing downward. In one embodiment, the buckle is lifted and the clasp unhooked to release the mechanism.

The material of construction for the back plates **301**, the inside strap **104** and the outside strap **108** include, but are not limited to, aluminum alloys, stainless steel, zinc alloys, titanium, platinum, leather, rubber, plastics, Kevlar, nylon, synthetics, neoprene, carbon composites. In one embodiment, the inside strap **104** is made of a metal or hard plastic and the outside strap is made of a metal for use in harsh and demanding environments. In another embodiment, the inside strap includes the ribbed top side and the outside strap includes the ratchet, the ribbed top side and the ratchet being made of a flexible plastic, the balance of the inside strap and the outside strap being made of a soft, pliant and flexible material.

FIG. **7** illustrates an embodiment where an inside strap **104** is connected to footwear **400** via fasteners **701**. As shown in FIG. **7**, the fasteners **701** or screws, pass though

inside strap footwear attachment structure **210**, eyelets **102** of footwear **400** and are threaded into back plate **301** via threaded receivers **304**.

FIG. **8** shows an enlarged view of section **800** of FIG. **1**, wherein the inside straps **104** are attached according to mechanism shown and described in FIG. **7**. Specifically, fasteners **701** are passed through inside strap footwear attachment structure **210** and eyelets **102** of footwear **100**. The fasteners **701** are threaded into a back plate **301** (not visible in FIG. **8**) to secure the inside straps **104**. The outside straps **108** are attached via essentially the same mechanism.

FIG. **9** shows footwear **100** as an ice skate, including a portable footwear tightener **101** installed thereon engaged on the eyelets **102** of footwear **100**. The portable footwear tightener **101** including an inside strap **104** engaged with an outside strap **108**. As shown, the outside strap **108** draws down into a snug position to tighten the footwear around the foot of the wearer. Although not so limited, the embodiment shown in FIG. **9** includes a portable footwear tightener **101** having three sets of inside straps **104** and outside straps **108**. Each of the outside straps **108** engages a single eyelet **102** and the inside straps **104** engage one eyelet **102**, three eyelets **102** and two eyelets **102**, respectively. The embodiment shown in FIG. **9** includes the inside straps **104** and the outside straps **108** connected to the footwear by fasteners **701** passing through the inside strap footwear attachment structure **210** and outside strap footwear attachment structures **601** and engage corresponding threaded receivers **304** of backplates **301** (not visible in FIG. **9**).

FIG. **10** shows an alternate embodiment of footwear **100** as an ice skate, including a portable footwear tightener **101** installed thereon engaged on the eyelets **102** of footwear **100**. The portable footwear tightener **101** including an inside strap **104** engaged with an outside strap **108**. As shown, the outside strap **108** draws down into a snug position to tighten the footwear around the foot of the wearer. Although not so limited, the embodiment shown in FIG. **10** includes a portable footwear tightener **101** having three sets of inside straps **104** and outside straps **108**. Each of the outside straps **108** engages a single eyelet **102** and the inside straps **104** engage one eyelet **102**, three eyelets **102** and two eyelets **102**, respectively. The embodiment shown in FIG. **10** includes the inside straps **104** connected to the footwear by hooks **1001** passing through the inside inner side of the footwear and outwardly through a corresponding eyelet **102**. In one embodiment, the hooks **1001** wrap around the top edge of the footwear eyelets. The hooks **1001** are sized to fit through eyelet **102**. Similarly, the outside straps **108** include hooks **1001** (not visible in FIG. **10**) that hook outwardly into the eyelet **102**. The portable footwear tightener **101** may include the same or different attachment mechanisms for the inside strap **104** and the outside strap **108**. For example, the inside strap **104** may utilize hooks **1001**, while the outside strap **108** may utilize fasteners **701** and back plates **301**. As the portable footwear tightener **101** is tightened, the hooks **1001** pull tight against the footwear **100**.

FIG. **11** shows the embodiment of the footwear **100** including the arrangement of portable footwear tightener **101** shown in FIG. **10**, wherein the inside strap **104** and outside strap **108** are disengaged. In addition, FIG. **11** shows an enlarged detail viewed from the opposite site showing the attachment of the outside strap **108**, wherein hook **1001** in inserted from the inner side of the footwear **100** through eyelet **102**. While the hooks **1001** shown and described in FIGS. **10** and **11** are inserted from the inside of the footwear **100**, another embodiment may include hooks **1001** that are inserted from the outside of the footwear **100** through the eyelets **102**.

FIG. **12** shows an alternate embodiment of the footwear **100** including the arrangement of portable footwear tightener **101** that includes a latch mechanism which utilizes a ratchet hasp in lieu of a clasp and a ribbed inside strap in lieu of a toothed strap as shown in the previous embodiments. FIG. **12** shows the hook attachment shown and described in FIGS. **10** and **11** with the ratchet style tightening system attached to an athletic shoe. As the portable footwear tightener **101** is tightened, the hooks **1001** pull tight against the footwear **100** and the hasp providing the required fastening/tightening.

FIG. **13** shows an alternate embodiment of the footwear **100** including the arrangement of portable footwear tightener **101**. FIG. **13** shows an attachment with a hook attachment, similar to the portable footwear tightener **101** shown and described with respect to FIG. **12** utilizing a ratchet style tightening system attached to a work boot. However, footwear **100** shown in FIG. **13** includes loops **1304** that would otherwise receive laces or similar structures. To install the portable footwear tightener **101** shown in FIG. **13**, hooks **1001** are directed through the loops **1304**.

FIG. **14** shows an alternate embodiment of the footwear **100** including the arrangement of portable footwear tightener **101**. The inside straps **104** and outside straps **108** includes a ratchet style tightening system attached to a work boot. FIG. **14** shows a combination of attachment of the inside strap **104** and the outside strap **109** by both a hook **1001** (on the lower portion of the footwear **100**) and by a hoop attachment having hoop receivers **1401** (on the two upper sets of inside strap **104** and outside strap **109**). The hoop receivers **1401** are present on the inside strap footwear attachment structure **210** and outside strap footwear attachment structure **601** of the inside strap **104** and outside strap, respectively. The hoop receivers **1401** include openings, similar to eyelets found on footwear, which are sized to receive eyelet hooks **1404**. The hoop receivers **1401** permit attachment for footwear **100** that have some or all eyelet hooks **1404**.

FIGS. **15** and **16** illustrate examples of the latching mechanism using a ratchet hasp **1501** with a ribbed strap **1504**. FIG. **15** shows the latching mechanism with hook attachments on the inside strap footwear attachment structure **210** and outside strap footwear attachment structure **601**, similar to that shown and described in FIGS. **10-12** and **14**. FIG. **16** shows the latching mechanism with eyelet hoop attachments on the inside strap footwear attachment structure **210** and outside strap footwear attachment structure **601**, similar to that shown and described in FIG. **14**. The ratchet hasp **1501** of the outside strap **108** shown in both FIGS. **15** and **16** releasably engages the ribbed strap **1504** of the inside strap **104** and can be tightened by a lifting of the left side lever of the ratchet hasp **1501**, which advances the ratchet hasp **1501** along the ribbed strap **1501**. The ratchet hasp **1501** may be released by pushing on the right side of the ratchet hasp **1501**, which releases the ratchet hasp from the ribbed strap **1504**.

FIGS. **17** and **18** show an alternate embodiment of the footwear **100** including the arrangement of portable footwear tightener **101** that includes an alternate method of tightening the latch mechanism having a size and configuration suitable for sneakers or casual shoes.

FIGS. **19-22** show alternate embodiments of the footwear **100** including the arrangement of portable footwear tightener **101**. FIGS. **19**, **20** and **22** show a hook arrangement for

attaching the portable footwear tightener **101** to the footwear, similar to that shown and described with respect to FIGS. **10**, **11**, **12**, **14** and **15**. FIG. **21** includes a hoop receivers **1401** for attaching the portable footwear tightener **101** to the footwear, similar to that shown and described with respect to FIGS. **14** and **16**. FIG. **22** includes an alternate engagement system for engaging the inside strap **104** to the outside strap. As shown in FIG. **22**, the outside strap **108** includes a flexible arm **2201**, formed from a suitable elastic material, having an engagement head **2204** that is received into an arm receive **2206** on the inside strap **104**. The elastic material pulls the inside strap **104** and the outside strap **108** snug. In some embodiments, the portable footwear tightener **101** may include custom design latch mechanisms using precious metals or jewels, such as rubies or diamonds, for fashion on sneakers or casual footwear **100**. In FIGS. **19-22**, jewels **1901** are displayed on various surfaces for decorative display purposes. The arrangement of and the specific jewels utilized are not particularly limited and may include any visually pleasing object or material.

The spacing between the eyelet attachments will vary and will be based upon known footwear configurations. The spacing of the eyelets may require unequal or irregular spacing depending on the style and type of footwear. For example, a hockey skate may have equal spacing between eyelets for uniform lace tightening, but an athletic shoe may have closer eyelets near the ankle and farther apart eyelets nearer the toe.

While the invention has been described with reference to one or more embodiments, it will be understood by those skilled in the art that various changes may be made, and equivalents may be substituted for elements thereof without departing from the scope of the invention. In addition, many modifications may be made to adapt a particular situation or material to the teachings of the invention without departing from the essential scope thereof. Therefore, it is intended that the invention not be limited to the particular embodiment disclosed as the best mode contemplated for carrying out this invention, but that the invention will include all embodiments falling within the scope of the appended claims. In addition, all numerical values identified in the detailed description shall be interpreted as though the precise and approximate values are both expressly identified.

What is claimed is:

1. A portable footwear tightener for footwear having eyelets, eyelet hooks, or loops, comprising: an inside strap having a tooth or ribbed top side; an inside strap footwear attachment structure; an outside strap having a ratchet or clasp/buckle mechanism; an outside strap footwear attachment structure; wherein each of the inside strap and the outside strap is attached to the footwear through the eyelets, hooks, or hoops by the inside strap footwear attachment structure and the outside footwear attachment structure, respectively, and the ribbed or toothed portion of the inside strap is connectable to ratchet or clasp/buckle mechanism of the outside strap into a snug arrangement;

wherein one or both of the inside footwear attachment structure and the outside footwear attachment structure includes one or more fasteners and a back plate;

wherein the fasteners are screws;

wherein the back plate includes threaded eyelets and is arranged and disposed on the underside of the eyelets of the footwear, and the associated inside or outside strap attachment structures include non-threaded eyelets and is arranged and disposed on the top side of the eyelets of the footwear connecting the inside and outside straps via the eyelets of the footwear by screwing of the screws into the back plate.

2. The portable footwear tightener of claim **1**, wherein the ratchet or clasp/buckle mechanism of the outside strap is configured to pull the mechanism tight to a users' preference.

3. The portable footwear tightener of claim **2**, wherein the ratchet or clasp/buckle mechanism of the outside strap is further configured to release the ribbed or toothed strap.

4. The portable footwear tightener of claim **1**, wherein the inside strap includes a toothed upper side where the teeth are arranged and disposed to receive a clasp connected to a buckle located on the outside strap.

5. The portable footwear tightener of claim **4**, wherein the clasp engages a tooth corresponding to a desired size, while the buckle is then pulled closed over the outside strap.

6. The portable footwear tightener of claim **4**, wherein the buckle is lifted and the clasp un-hooked to release the mechanism.

7. The buckle of claim **5**, further includes an adjustment screw for added adjustment.

8. The portable footwear tightener of claim **1**, including a ribbed upper side made up of a plurality of ribs where the ribs are arranged and disposed to be inserted in a ratchet mechanism located on the outside strap, the ratchet being configured to pull the straps tight one rib at a time to the desired tightness.

9. The portable footwear tightener of claim **1**, wherein the ratchet, upon pressing down, releases the ribbed strap loosening the mechanism.

10. The portable footwear tightener of claim **1**, wherein the inside strap is made of a metal or hard plastic and the outside strap is made of a metal for use in harsh and demanding environments.

11. The portable footwear tightener of claim **1**, wherein the inside strap includes the ribbed top side and the outside strap includes the ratchet, the ribbed top side and the ratchet being made of a flexible plastic, the balance of the inside strap and the outside strap being made of a soft, pliant and flexible material.

12. The portable footwear tightener of claim **1**, wherein one or both of the inside strap or outside strap includes a material of construction selected from the group consisting of aluminum alloys, stainless steel, zinc alloys, titanium, platinum, leather, rubber, plastics, Kevlar, nylon, synthetics, neoprene, carbon composite and combinations thereof.

* * * * *